

Effect of Educational Intervention On Cord Care Skill Among Women of Reproductive Age Attending Selected Primary Healthcare Centres in Abeokuta South Local Government Area of Ogun State, Nigeria

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Abstract:

The study examined the effect of educational intervention on cord care skill among women of reproductive age attending selected primary healthcare centres in Abeokuta South Local Government Area of Ogun State, Nigeria. The study examined the difference in the pre- and post- intervention cord care skill between women of reproductive age in the control and experimental group. This study adopted two groups pre-test post-test quasi-experimental design. The study population targeted women of reproductive age attending clinics in the two selected Primary Health Care centers in Abeokuta South Local Government Area of Ogun State, Nigeria. The instrument used for data collection of this study was a checklist which consisted of two sections A and B. The face and content validity of the checklist was ensured by experts of Nursing Science and Tests and Measurement. The experimental procedure was in three phases namely pre-intervention, intervention and post-intervention. The checklist was coded and analysed using the Statistical Package for Social Science (SPSS) version 28. The findings revealed that the pre-intervention cord care skill of participants in both the control (34.9%) and experimental (35.1%) groups were low. The findings show further that the post-intervention cord care skill of the experimental group (81.9%) was better than the control group of (35.6%). In conclusion the health educational intervention programme improved cord care skill

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among women that participated in the study in the experimental group. It was recommended among others that health educational intervention on cord care should be mandated for all pregnant mothers during antenatal visit.

Keywords: Cord care, Educational Intervention, Skill, Women of Reproductive Age,

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Introduction

The care given to the new-born determines the child's survival (Agbonjinmi, et al., 2022). Hence, umbilical cord care is an essential neonatal care practice that prevents the likelihood of contracting infection by the neonate because it is an aspect of neonatal care that increases the quality of life in the baby. Globally, 2.5 million children died at their first months in 2020 alone, translating to approximately 7,000 neonatal deaths every day most of which occurred in the first week of birth. World Health Organization further reports that "a child's risk of dying is highest in the first 28 days of life during the neonatal period with preterm birth, intra-partum related complications (birth Asphyxia, infections and birth defects) which are responsible for most neonatal deaths" (WHO, 2021).

It is estimated that 40% of neonatal deaths could be prevented by providing high-quality care for both mother and baby around the time of birth. Although, the magnitude of its contribution to these deaths remains uncertain, the umbilical cord may be a common portal of entry for pathogenic bacteria (Liu, et al., 2012) with or without clinical signs of omphalitis. Poor umbilical cord hygiene in the first week of life is a well-documented risk factor that increases the likelihood of neonatal infections. However, there are occurrences of neonatal morbidity and mortality resulting from umbilical cord care practices in developing and developed nations.

Many of the mothers who does not access health care facilities for antenatal or delivery services end up mismanaging the cord stump of the babies and thus get the stump infected due to poor cord care practices. This is evident by some babies being admitted into the Neonatal outward of Federal Medical Centre, Abeokuta in 2021 of which 14 out of the 318 babies admitted into the ward for that year were admitted on account of Neonatal sepsis arising from cord infection which was due to poor cord care and practices. A large number of neonatal mortalities are linked to infections caused by poor cord care practices. It is said to be the third leading cause of deaths for infants in their first month of life.

Even though healthy cord care practices lead to the growth and development of a healthy child, literature still reveals that in present day Africa, cord care practices still depend largely on traditional beliefs and practices (Monebenimp, et al., 2017). Coffey and Brown (2017) indicated that cord-care practices are not consistent throughout low- and middle-income countries. However, there is a firm tradition of umbilical cord care in every culture. Cord-care practices vary by country, regions, or cultural groups within a country and employ a wide range of substances. The desires to promote healing and hasten cord separation are the underlying beliefs related to application of substances to the umbilical cord.

Cord care practices are often embedded in institutional tradition. However, few data were gathered in the past regarding the most effective method. It is true that aseptic cord care decreases cord bacterial colonization, but it does not necessarily lower the risk of infection. Besides that, aseptic cord care delays cord separation. Abhulimhen-Iyoha and Ibadin (2018) stated that in developing countries, isolated cases and epidemics of cord infections continue to occur, and a number of factors contribute to the high incidence of neonatal tetanus and infections in these countries. Some are traceable to unhygienic circumstances and deliveries conducted by untrained birth attendants. Harmful cord care practices have also been pointed to as a contributing factor.

Non satisfactory level of cord care practices was observed in studies conducted (Abhulimhen-Iyoha & Ibadin, 2018; Punitha & Kumaravel, 2016). The variation in the practice cord care further reiterates that more concerted efforts have to be put in place to ensure safe and

beneficial cord handling practices globally in order to bring to the barest minimum morbidity and mortality related to cord infections. The study, therefore, examined the effect of educational intervention on cord care skill among women of reproductive age attending selected primary healthcare centres in Abeokuta South Local Government Area of Ogun State, Nigeria. The specific objectives were to:

1. assessed the pre- and post- intervention cord care skill among women of reproductive age in the control and experimental group; and
2. assessed the difference in the pre- and post- intervention cord care skill between women of reproductive age in the control and experimental group.

Research questions

The following research questions were answered:

1. What is the pre-intervention cord care skill among women of reproductive age in the control and experimental group?
2. What is the post-intervention cord care skill among women of reproductive age in the control and experimental group?

Research Hypotheses

Ho1: There is no significant difference in the pre-intervention cord care skill between women of reproductive age in the control and experimental group.

Ho2: There is no significant difference in the post-intervention cord care skill between women of reproductive age in the control and experimental group.

Methodology

This study adopted two groups pre-test post-test quasi-experimental design to assess effect of educational intervention on cord care skill among women of reproductive age attending selected primary healthcare centres in Abeokuta South Local Government Area of Ogun State, Nigeria.

The study population targeted women of reproductive age attending clinics in the two selected Primary Health Care centers in Abeokuta South Local Government Area of Ogun State, Nigeria. The average weekly attendance of women of reproductive age for the prenatal and routine immunization clinic in the two selected health facilities is 97. Total enumeration method was used and purposive sampling technique was utilized in selecting the two PHCs. The two Primary Healthcare centers were assigned to the experimental and control groups through purposive sampling technique too. The PHC with highest attendance was assigned as the experimental group while the other Primary Health Centre was assigned as the control group.

The instrument used for data collection of this study was a checklist. The checklist consisted of two sections A and B. Section A sought for socio-demographic characteristics of the respondents while section B assessed the skill of mothers on cord care. These are skill on cord care that are expected of the mothers. The scoring will be rated between 0 and 1. Anyone that does not demonstrate the skill correctly will be scored 0, fairly well will be score scored $\frac{1}{2}$ and correct skill will be 1. The maximum obtainable score is 20. Scores between 1 and 7 are considered as low skill, 8 and 14 moderate skill, and 15 and 20 high skill. The face and content validity of the checklist was ensured by experts of Nursing Science and Tests and Measurement. The experimental procedure was in three phases namely pre-intervention, intervention and post-intervention.

The checklist was coded and analysed using the Statistical Package for Social Science (SPSS) version 28. The research questions of the study were answered using descriptive statistics of

mean, standard deviation and percentages. Inferential statistics of independent t-test was utilized to test the two hypotheses at 5% level of significance.

Results

Research Question 1: What is the pre-intervention cord care skill among women of reproductive age in the control and experimental group?

Table 1: Pre-intervention cord care skill among women of reproductive age in the control and experimental group

Skill on cord care	Category of scores	Control		Experimental	
		F	%	F	%
Low	1-7	28	68.3	37	66.1
Moderate	8-14	10	24.4	14	25.0
High	15-20	3	7.3	5	8.9
Total		41	100.0	56	100.0
Mean (%)		6.98±1.96 (34.9)		7.02±1.81 (35.1)	

Results from Table 1 show the pre-intervention cord care skill among women of reproductive age in the control and experimental group. In the control group, 28 (68.3%) participants had low skill, 10 (24.4%) and 3 (7.3%) had moderate and high cord care skill respectively. In the experimental group, 37 (66.1%) had low cord care skill, 14 (25.0%) had moderate cord care skill and only 5 (8.9%) had high cord care skill.

The table also revealed the pre-intervention cord care skill of participants in the control to be 6.98±1.96 (34.9%) and experimental group 7.02±1.81 (35.1%). It could be said from the outcome of this finding that the pre-intervention cord care skill of participants in both the control and experimental groups are low.

Research Question 2: What is the post-intervention cord care skill among women of reproductive age in the control and experimental group?

Table 2: Post-intervention cord care skill among women of reproductive age in the control and experimental group

Skill on cord care	Category of scores	Control		Experimental	
		F	%	F	%
Low	1-7	26	63.4	3	5.4
Moderate	8-14	13	31.7	12	21.4
High	15-20	2	4.9	41	73.2
Total		41	100.0	56	100.0
Mean (%)		7.11±1.57 (35.6)		16.38±1.65 (81.9)	

Results from Table 2 show the post-intervention cord care skill among women of reproductive age in the control and experimental group. In the control group, 26 (63.4%) participants had low skill, 13 (31.7%) and 2 (4.9%) had moderate and high cord care skill respectively. In the experimental group, 3 (5.4%) had low cord care skill, 12 (21.4%) had moderate cord care skill and 41 (73.2%) had high cord care skill.

The table also revealed the post-intervention cord care skill of participants in the control to be 7.11±1.57 (35.6%) and experimental group 16.38±1.65 (81.9%). It could be said from the

outcome of this finding that the post-intervention cord care skill of participants in the control group was low while the cord care skill of those in experimental groups was high.

Test of Hypotheses

Ho1: There is no significant difference in the pre-intervention cord care skill between women of reproductive age in the control and experimental group.

Table 3: Independent t-test to show the difference in the pre-intervention cord care skill between women of reproductive age in the control and experimental group

	N	Mean	Std. Deviation	df	T	Mean diff	P value
Control	41	6.98	1.96				
Experimental	56	7.02	1.81	95	0.204	0.04	.759

Table 3 presents indicated that there is no significant difference in the pre-intervention cord care skill between women of reproductive age in the control and experimental group (Mean difference = 0.04, $t_{(95)} = 0.204$, $p = .759$). Going through the pre-intervention cord care skill, one can say that there is no significant difference between control group (N = 41, Mean = 6.98, Std. dev. = 1.96) and the experimental group (N = 56, Mean = 7.02, Std. dev. = 1.81). Based on this, the earlier set hypothesis is accepted. Therefore, there is no significant difference in the pre-intervention cord care skill between women of reproductive age in the control and experimental group.

Ho2: There is no significant difference in the post-intervention cord care skill between women of reproductive age in the control and experimental group.

Table 4: Independent t-test to show the difference in the post-intervention cord care skill between women of reproductive age in the control and experimental group

	N	Mean	Std. Deviation	df	T	Mean diff	P value
Control	41	7.11	1.57				
Experimental	56	16.38	1.65	95	28.115	9.27	.000

Results presented in Table 4 indicated that there is a significant difference in the post-intervention cord care skill between women of reproductive age in the control and experimental group (Mean diff. = 9.27, $t_{(95)} = 28.115$, $p = .000$). Going through the mean scores, one can say that there is a significant difference between post intervention cord care skill between the control group (N = 41, Mean = 7.11, Std. dev. = 1.57) and the experimental group (N = 56, Mean = 16.38, Std. dev. = 1.65). Based on this, the earlier set hypothesis is rejected. Therefore, the difference observed in the post-intervention cord care skill between women of reproductive age in the control and experimental group could not have happened by chance but due to the educational intervention the participants in experimental group were exposed to.

Discussion

Results showed that the pre-intervention cord care skill of participants in both the control and experimental groups were low at the commencement of the intervention. This could be liken to the fact that some mothers deliver in their homes, often with the help of unskilled birth attendants and the new-born are often subjected to unhygienic delivery practices arising from traditional beliefs and taboos that put their survival at risk. This is in tandem

with Abhulimhen-Iyoha and Ibadin (2015) who reported that health education is important in that it gives information which may modify health behaviour.

The findings of the study also showed that the post-intervention cord care skill of participants in the control group was low while the cord care skill of those in experimental groups was high. It could be said from the outcome of this findings that the post-intervention cord care skill of participants in the experimental group is better than that of the control group after intervention. The variation in the practice cord care further reiterates that more concerted efforts has to be put in place to ensure safe and beneficial cord handling practices globally in order to bring to the barest minimum morbidity and mortality related to cord infections. This is supported by a study which showed that women who had skilled care during delivery had better cord care practices (Udosen, et al., 2019).

It was also revealed that there was no significant difference in the pre-intervention cord care skill between women of reproductive age in the control and experimental group. No difference observed in the cord care skill of participants in the control and experimental group was as a result of the fact that the content of the health education on cord care provided in orthodox centers were misleading, inimical and not evidence based. This is in line with the report of Bhatt, et al., (2015) which assessed cord care practices among mothers of new-born showed poor knowledge and practice with application of various agents by the mothers.

The findings further revealed that there was a significant difference in the post-intervention cord care skill between women of reproductive age in the control and experimental group. The difference observed in the post-intervention cord care skill between women of reproductive age in the control and experimental group could not have happened by chance but due to the educational intervention the participants in experimental group were exposed to. This result corroborates the findings of Abhulimhen-Iyoha and Ibadin (2018) on cord care education which established a significant relationship between content of health education on cord care and method of cord care practiced by mothers. It was concluded by the researchers that health education on cord care helped to reduce or abolish the confusion which mothers presently encounter in caring for their babies' umbilical cords.

Conclusion

The participants in both the control and experimental groups at pre-intervention stage have low cord care skill while the control and experimental group differs in their post intervention practice of cord care. Those who received information on cord care practiced more appropriately and more knowledgeable.

Recommendations

The following are hereby recommended:

1. Health educational intervention on cord care should be mandated for all pregnant mothers during antenatal visit.
2. Facilities should have standard protocol for umbilical cord care which should be communicated to all women and carers by their health care providers including doctors and nurses.
3. Standard umbilical cord care is pivotal to mitigating the rate of neonatal morbidity and mortality in Nigeria. This can only be achieved if mothers have adequate knowledge of standard cord care practices.



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